ALITA INDUSTRIES

represented by European Technical Center for Engineering & Distribution GmbH

Linear air compressors

OPERATION AND MAINTENANCE MANUAL

AL Series Compressor
Models **40, 60, 80, 100, 120, 150, 200**

c UL us CE

Efficient and Silent Air Moving Products

Garantee card please send to:

Alita direct:
+886 (0)2 2609-4868
or
€TC –Distribution GmbH
Am Gründl 38
91093 Hessdorf
Tel + 49 (0)9135 7217200
Fax +49 (0)9135 7217202
info@etc-distribution.com

AL-_____ _____ _____

Model number DateCode / Serial Number Date of Purchase

_____ _____

Dealer Phone

Dealer Address

Notice

The information contained in this document is subject to change without notice.

ALITA shall not be liable for any errors or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

ALITA makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Please keep this manual for future reference. If this instruction manual should become lost or damaged, please contact your nearest dealer or ALITA for another copy.

As per WEEE regulation we are obligated to accept your purchased product after the expiry of the machine life. Kindly return the unit at your expense to €TC Distribution GmbH Germany with serial number and copy of invoice.

Revision D. January 2004
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Limited Warranty

ALITA warrants to the original retail consumer purchaser ("Customer") that the ALITA Products, when properly installed and operated under normal conditions of use, will be free from defects in materials and workmanship for a period of twelve (12) months from the date of purchase from ALITA or an authorized ALITA representative or distributor. Customer is responsible for registration of product warranty and maintaining a dated proof of purchase, and such registration and proof shall be used to determine warranty eligibility.

ALITA Limited Warranty covers only those defects which arise äs a result of normal use of the product and do not apply to any: (a) defect or malfunctions resulting from failure to properly install, operate or maintain the ALITA Product in accordance with printed instructions provided; (b) failures resulting from abuse, accident or negligence; (c) ALITA Products which are not install in accordance with applicable local codes, ordinances and good trade practices; (d) Operation outside the ALITA Product's specifications or used for purposes other than for what it was designed and manufactured; (e) improper or inadequate maintenance or modification, and (f) damage due to shipment, lightning, natural disaster, earthquake, fire, flood, force majeure or circumstances beyond the control of ALITA.

If within the duration of Limited Warranty, the ALITA Product shall prove to be defective due to defective materials or workmanship of ALITA, ALITA shall either repair or replace the defective product, at ALITA's Option. ALITA shall have no Obligation to repair or replace until the Customer returns the defective product, together with dated proof of purchase and written notice of alleged defect to ALITA. Customer may be required at ALITA's request to verify that he or she is the original purchaser of the ALITA Product and the ALITA Product has been installed and operated in accordance with ALITA's instructions. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced. No requests for service under this warranty will be accepted if received more than 30 days after the term of the warranty.

ALITA shall be liable only for the cost of the replacement part, or the repair of any defective part. Customer shall be responsible for labor, cost of removal and Installation at Customer's premises, transportation and insurance cost to and from ALITA, and any other incidental costs.

Correction of defects, in the manner and for the duration of the warranty described in this Limited Warranty, shall constitute complete fulfillment of all liabilities and responsibilities of ALITA to the Customer with respect to the product, and shall constitute füll satisfaction of all Claims, whether based on contract, negligence, strict liability or otherwise.

Except for the obligations specifically set forth in this Limited Warranty, in no event shall ALITA be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether advised of the possibility of such damages.

ALITA disclaims all other warranties with respect to ALITA Product, whether implied, and specifically disclaim the implied warranties or conditions or merchantability, satisfactory quality, fitness of a particular purpose.

Unauthorized extensions of warranties by the customer shall remain customer's responsibility.

ALITA reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such a change or improvement.

The limited warranties described herein shall be the sole and exclusive remedy available to the Customer. This warranty is void if the ALITA Product has been improperly used, mishandled, disassembled or modified.

CUSTOMER IS RESPONSIBLE FOR DETERMING THE SUITABILITY OF ALITA PRODUCTS FOR CUSTOMER'S USE OR RESALE, OR FOR INCORPORATING THEM INTO OBJECTS OR APPLICATIONS WHICH CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.

SAFETY INSTRUCTIONS

Inspect the product while unpacking. Check for any damage to the product and the power cable äs result of shipment, and make sure all bolts and nuts are tightened properly. If there is any problem with the product äs shipped, contact the product reseller or ALITA representative at once. Please verify nameplate information; be sure the product received is what you have ordered. Check for correct voltage and frequency on label.

WARNINGS

Special care should be taken when operating an equipment using electricity. To avoid possible electrical shock or risk to personal safety, please observe all electrical safety rules and tips. Here are some examples:

- Do not operate this pump if it falls into or flood by water.
- Do not plug this pump to electrical source when there is water on parts that are not intended to be wet.
- Do not use this pump in the vicinity of explosive or flammable materials, liquids or gases.
- Do not operate this pump if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- Keep power cable away from heated surfaces.
- To prevent any personal injury or damage to the equipment, operate the pump only in fully assembled state.

CAUTIONS

- Read and observe all important markings on the pump.
- Close supervision is required when operating the pump in the vicinity of children.
- This pump is designed to operate with air only. Do not attempt to operate this pump with corrosive gases, fluid of any type, airborne particles or solids. Any vapor or oil-based contaminants must be filtered out.
- Do not use the air pump other than to transport or move air. The use of attachments not recommended or sold by the air pump manufacturer may cause unsafe operating conditions.
- The ambient operating temperature for this pump is between 41 °F (5°C) and 104°F (40°C). Operation of pump in temperature outside of the recommended temperature ränge may result in malfunction or severely shorten the pump Service life.
- Always unplug pump prior to serving or maintenance. Grasp plug to remove cord from electrical outlet. Do not remove by pulling on power cord.
- Do not expose pump to excessive weathering or to high moisture concentration.
- Do not lubricate this oil-less pump. No parts on this pump have oil or require oil lubrication.

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INSTALLATION NOTES

Install this product upright securely on a dry and stable horizontal surface prior to Operation. Sit pump in shaded area that shelters from excessive weathering. Do not allow pump to swelter under intense sun or flooded in heavy rainfall, and avoid places with excessive dust or debris.

For aeration applications, the pump should be placed above the water surface level, otherwise install a reliable low air resistance check valve to prevent water back flow or siphon when electrical power is turned off.

Proper Ventilation

The air pump must have sufficient room and air circulation for proper heat / dissipation. Good Ventilation ensures lower operating temperature and prevent thermal stress to key components such äs pump diaphragms and coil windings.

Proper winterization technique may require the pump be relocated indoor or protected by an enclosure. Avoid any pump enclosure that insulate and increase the pump operating temperature. Modify the enclosure if the pump operating temperature is higher than normal.

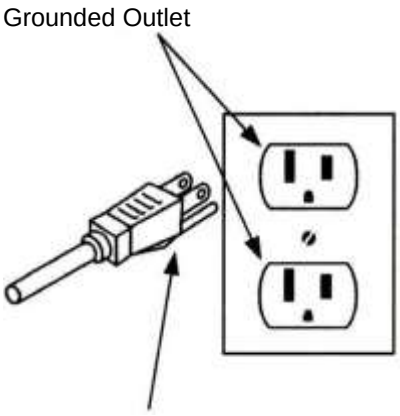
If overheating occurs, the internal thermal protection circuit may temporarily shut down the pump. Do not allow this on-off cycle to repeat intermittently, relocate the pump to a cooler and well-ventilated environment.

Grounding Instruction

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt äs to whether the product is properly grounded.
Do not modify the plug provided; if it donot fit the outlet, have the proper outlet installed by a qualified electrician.

In the USA and Canada, this product is for use on a nominal 120V circuit and has a grounding plug similar to the plug illustrated in the sketch on the right. Only connect the pump to an outlet having the same configuration as the plug. Do not use an adapter with this product.



WARNING - Improper Installation of the grounding plug can result in the risk of electric shock. When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal. The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire.

Extension Cords

Use only a 3-wire extension cord that has a 3-blade grounding plug, and a 3-slot receptacle that accepts the plug on the pump. Make sure your extension cord is not damaged. When using an extension cord, be sure to use one heavy enough to carry the current the pump draws. For lengths less than 50 ft, No. 16/3 AWG extension cord shall be used. An undersized cord can result in a drop in line voltage, loss of power and overheating.

OPERATION NOTES

Do not block or restrict pump discharge. Excessive back pressures will stress and shorten the Service life of pump diaphragms and may lead to pump damages. Bleed excess air volume into atmosphere with a valve.

Failure to observe Proper Ventilation instruction may not cause pump to automatically shut down for thermal protection, however, continuous Operation in higher temperature ranges can excel the rate of aging and deterioration of pump diaphragms and other key components.

In case of unusual noise or odor from the pump, turn off the power immediately and consult your nearest pump representative or contact Alita Service department for assistance.

The pump surfaces can become hot during Operation. Do not touch pump surfaces until power is turned off and pump has cooled down.

Always operate the pump in fully assembled state.

MAINTENANCE NOTES

Periodic pump maintenance is required for reliable continuous Operation. Any maintenance of the pump other than those described within this manual must be performed by an authorized Service facility.

Air Filter

Air Filter Pad under the filter cover should be cleaned every 3 to 6 months. Remove and gently wash the filter pad in mild, soapy water then rinse thoroughly. Allow filter pad to dry completely before reinstalling.

Diaphragm Modules

Diaphragm Module Replacement is recommended for every 18 to 24 months of Operation. Diaphragm Replacement Kit (DRK) can be acquired from Alita Industries or from your local Alita representative.

Replacement Procedure

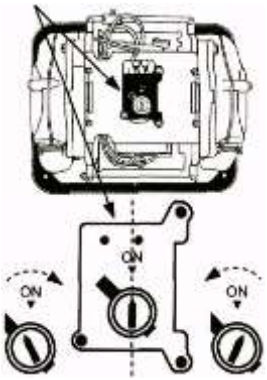
1. Remove Filter Cover, set pump upside-down and remove all corner screws (4x for model AL-40 to 80 and 6x for model AL-100 to 200). Return pump to upright position and lift away Upper Pump Housing.
2. Detach the L-tube from each Diaphragm Housing.
3. Select a Diaphragm Housing on the pump, remove its 4 corner screws then pull away the housing. Proceed to remove the Hex Nut from center of the Diaphragm then slide the entire Diaphragm Block away from Magnetic Rod and Core Frame.
4. Select a new Diaphragm Block assembly from the DRK, ensure the rim of new Diaphragm is firmly embedded into the groove of Diaphragm Frame. Then match new Diaphragm Block to the Core Frame and secure to the Magnetic Rod with Hex Nut.
5. OPTIONAL: Apply 1 or 2 drops of threadlocker (use only removable grade) over the hex nut and the exposed thread of magnetic rod screw.
6. Install new Diaphragm Housing and secure with 4 corner screws.
7. Attach L-tube to the Diaphragm Housing and secure with silicone band or metal clip.
8. Repeat procedure #3 through #7 to replace old diaphragm module on the other side of pump.
9. Inspect the position of Magnetic Rod from the top. Confirm that the Magnetic Rod is centered between and NOT in contact with the two Electromagnets.
10. If the pump includes a Protective Switch on top of the Core Frame, rotate the switch to ON Position. (See Illustration on the right)
11. Install Upper Pump Housing, and secure to pump firmly with all 4 or 6 corner screws. Reinstall Filter Cover.

Removing Diaphragm Housing

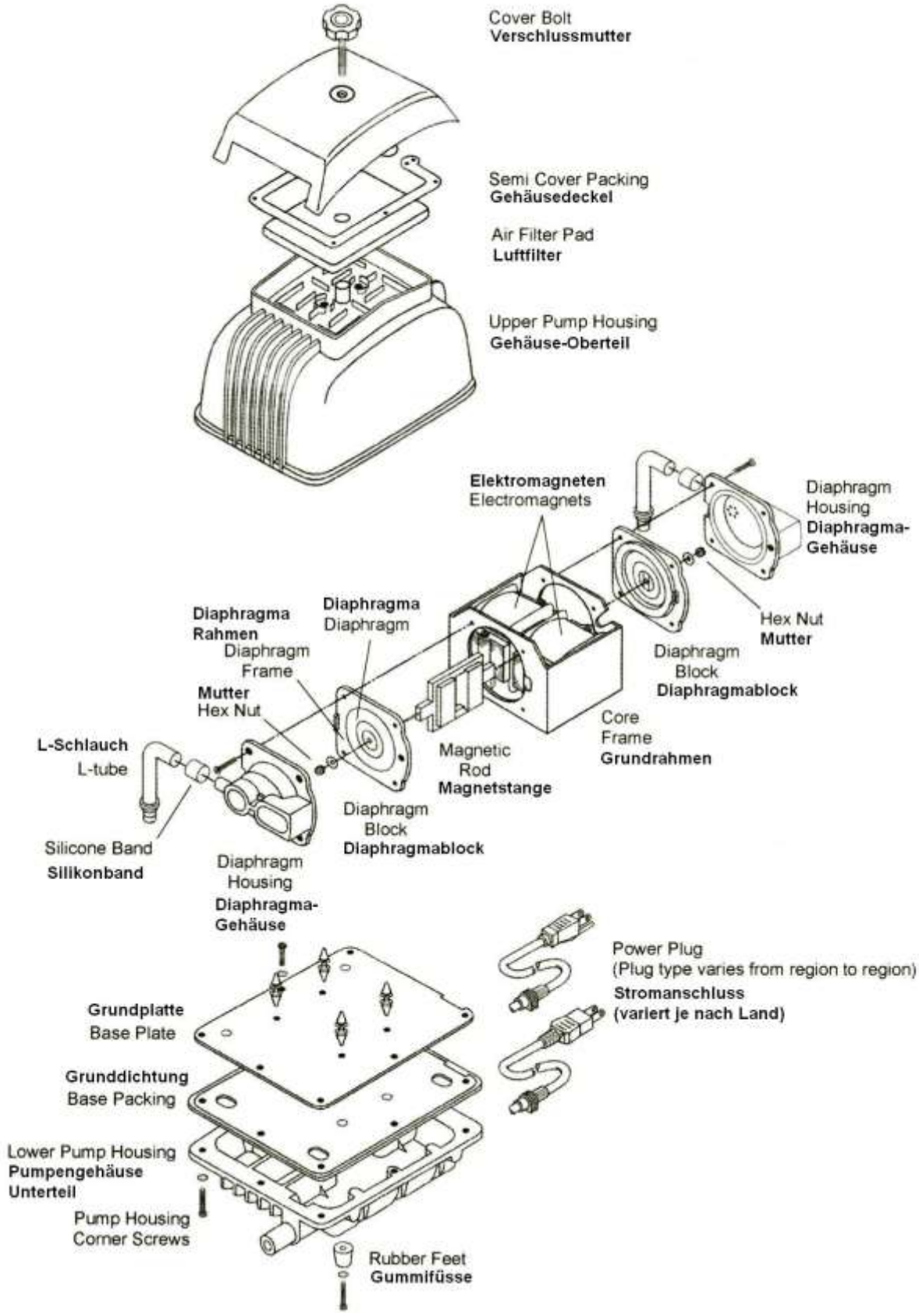
Models AL-40/60/80

Models AL-100/120/150/200

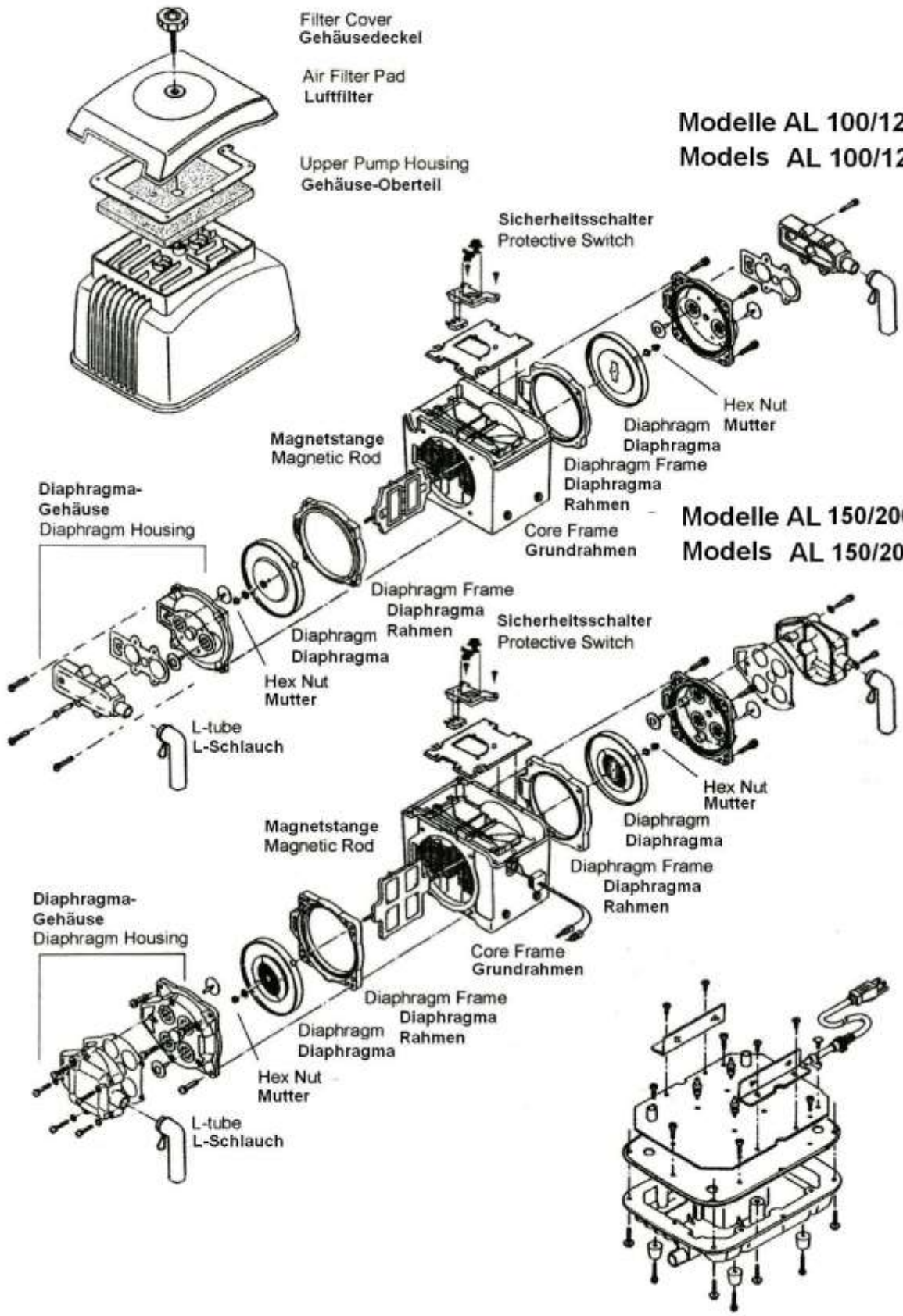
Protective Switch

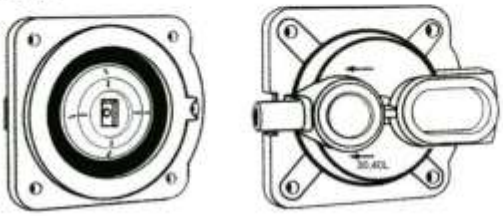
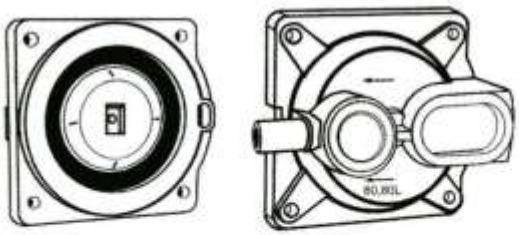
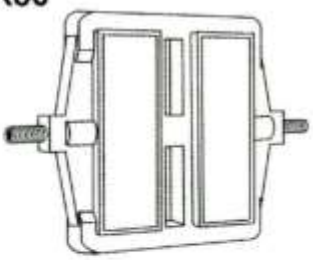
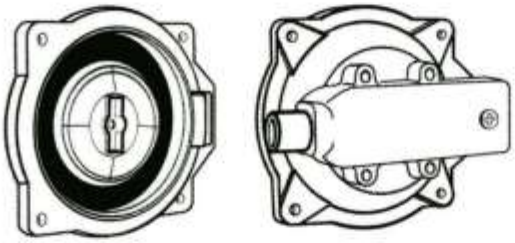
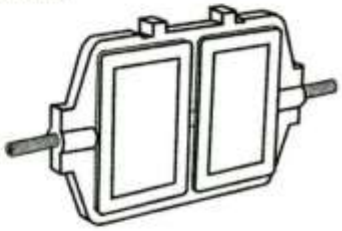
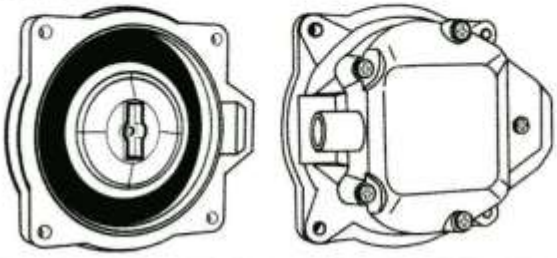
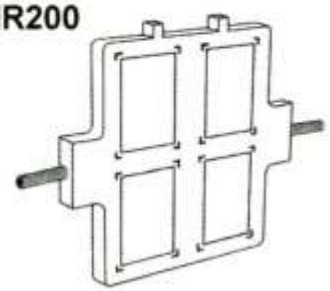


Assembly Diagram for Models AL 40/60/80
Explosionszeichnung für Modelle AL 40/60/80



Assembly Diagram for Models AL 100/120/150/200
Explosionszeichnung für Modelle AL 100/120/150/200



MODEL	**Diaphragm Replacement Kit** Diaphragm Block (2 pieces) Diaphragm Housing (2 pieces)	**Magnetic Rod** (1 piece)
AL-30 AL-40	DRK40 	MR40
AL-60 AL-80	DRK80 	MR80 
AL-100 AL-120	DRK120 	MR120 
AL-150 AL-200	DRK200 	MR200 

TROUBLESHOOTING GUIDE

CAUTION: Always turn off the power before any pump inspection. Failure to observe this precaution can result in serious accident.

Pump does not Start

- Poor electrical connection: Plug the power plug firmly into AC outlet.
- Power cord damage: Contact ALITA for repair Service.
- GFCI trigger: Check for moisture on plug or water inside the pump. Replace faulty GFCI and/or try another GFCI protected AC outlet.
- For model AL-100/120/150/200 and certain AL-60/80
  Open circuit on Protective Switch due to poor shipping or handling:
  Follow instructions #1, #10 and #11 on Diaphragm Module Replacement Procedure to reset Protective Switch.

There exist a high humming noise

- High backpressure: Reduce pressure load or bleed off excess air.
- Poor air distribution lines: Re-configure or resize pipelines and fittings, use sound dampening materials, make firm and stable connections.

Pump stops intermittently

- High operating temperature: Follow Proper Ventilation instructions on this manual. Allow thermal protection circuit to reset after cooling.

Reduced flow rate or performance (after a period of usage)

- Faulty air distribution medium: Replace damaged air pipeline, clean air control valves or release bends in plastic tubing.
- Pump intake blocked: Remove blockage from pump intake.
- Fouled air diffusers: Wash air diffuser thoroughly.
- Worn diaphragms: Replace aged or damaged diaphragm modules. See Maintenance Notes.

Pump stops and will not start (after a period of usage

For model AL-100/120/150/200 and certain models of AL-60/80

- •Protective switch activated: Procure Diaphragm Replacement Kit for maintenance. See Maintenance Notes.

Pump produces an abnormal noise (after a period of usage)

- Diaphragm failure: Stop pump Operation immediately. Open pump for inspection. Contact ALITA for assistance and procure a Diaphragm Replacement Kit.

If none of the prescribed solution can help you resolve your pump problem, contact ALITA for repair service instructions. **DO NOT ATTEMPT** to repair the pump on your own.

For repair or service, contact your Alita representative or Alita Industries first for instructions and to receive an authorization number prior to sending of the pump. Alita Industries will not be responsible for any lost or misdirected package.
When sending a pump for service or repair, please include the following:

1. Dated proof of purchase.
2. Legible contact Information and return address
   (i.e. name, address, telephone number, fax number and email address, etc.)
3. Description of the pump setup and application. (Include drawings or photographs if possible.)
4. Summary of the operating conditions and history.
5. Detailed description of the problems.

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